

REMARKS

In view of the above amendments and the following remarks, the Examiner is respectfully requested to withdraw the rejections and allow Claims 13 and 15 to 23, the only claims pending and currently under examination in this application.

Claim 13 has been amended to specify that the claims include both a labeling step and washing step prior to the detecting step. Support for the labeling step is found, among other locations, at previously pending Claim 14 (which has now been cancelled) and paragraphs 114 to 117. Support for the washing step is found at page 35, second to last full paragraph, where an analyte/sample contacted array is washed. As the above amendments introduce no new matter to the application and place the claims in better condition for allowance, their entry by the Examiner is respectfully requested.

In the above amendments, Claims 1-12 and 24-27 have been cancelled pursuant to the Examiner's request, these claims being drawn to a non-elected invention.

The requested correction to paragraph 114, line 1 of the specification has been made above.

Next, the rejection of Claims 13-23 under 35 U.S.C. § 112, 1st ¶ was maintained for a number of asserted reasons numbered 6 to 13. For purposes of clarity, each of these reasons will be addressed separately below.

6. In paragraph 6, the Examiner indicates that only examples 6,7, and 8 are relevant to the claimed invention. The Applicant respectfully disagrees with this view. Examples 1 to 5 provide experimental evidence showing the functionality of each of the different types of representative background features disclosed in the specification. These examples show how these background features perform under assay conditions, and provide details on the assays employed in each of the examples, including the later Examples 6 to 8. Accordingly, all of the Examples are relevant to the claimed invention, not just Examples 6, 7, and 8.

7. With respect to issue 7 and the lack of recited labeling step in Claim 13, this issue has been addressed by the above amendment to Claim 13, where Claim 13 now requires the performance of a labeling step.

8. With respect to issue 8, the claims now specify an unbound target/label separation step, which recitation is believed to address this issue.

Issues 9-13.

Beginning with issues 9-13, it is also re-asserted that the specification is not enabling because the claimed method places no limitation on the number, density, length and nucleotide composition of the various hybridization features and background features, as well as on the heterogeneity of the sample that is contacted therewith.

In response, it is respectfully submitted that the full scope of the claims is enabled when read in view of the specification for the following reasons.

In support of the pending claims, the specification provides extensive generic description of the background features. See e.g., paragraph 64; and paragraphs 88 to 95. The specification also provides extensive description of specific types of background features. In addition, working exemplification showing actual use of a large number, i.e., 28 different probes as specific background features is provided in the specification. The Examiner asserts in paragraph 11 that this working exemplification cannot be found. The Examiner is respectfully directed to Table 1 on page 37, which provides seq id nos. 5-18 (14 sequences); Table 2, page 38, which provides seq id nos. 19-23 (5 sequences); Table 3 on page 39, which provides seq id nos. 24-28 (5 sequences); and table 4 on page 42, which provides seq id nos. 29-32 and 27 (four more sequences). As such, the specification does provide working exemplification of a large number of background probes (28) of varying length. Examples 1 to 8 provide experimental details of where these probes were actually used in array based hybridization assays. Accordingly, the specification provides both an extensive generic description of what a background probe is, as well as 28 specific representative background probes and shows the use of these 28 specific representative background probes.

Furthermore, the specification provides extensive written description of suitable types of probe/array configurations in general that can be employed in the subject methods,

as well as specific representative embodiments thereof. See for example the general description of hybridization probes appearing at, among other locations, paragraph 59, and the supporting description of representative nucleic acids that may be employed as probes, appearing at, among other locations, paragraphs 46 to 54. See also paragraph 61 that provides ranges for the lengths of the probes. Density of representative arrays is discussed in paragraph 70.

In paragraph 12, the Examiner has discounted the above sections by asserting that paragraph 59 is merely a definition of the hybridization probes. However, paragraph 59 was cited to the Examiner in conjunction with the other cited paragraphs. In view of the totality of the cited paragraphs which are coupled with the extensive knowledge of those of skill in the art and the well-developed nature of the art, as evidenced by the large number of array patents that have been issued by the Patent Office, it is respectfully submitted that the arrays with respect to hybridization features have been fully enabled.

The specification also provides a full description of the sample and hybridization conditions that are employed in the subject assays. For example, the sample is described in paragraph 56, among other locations. Furthermore, the hybridization conditions recited in the claims are discussed in the specification at paragraphs 110 to 113, as well as paragraph 78. The Examiner asserts that such is insufficient in that the teachings are only general.

However, the Examiner is again directed to the working exemplification, and particularly Examples 1 to 5. Example 1 shows how representative background features of the subject invention function in a representative array hybridization assay. The fact is that the specification provides actual working exemplification, which the Examiner appears to have completely discounted in maintaining this rejection. None of the reasons for maintaining this rejection by the Examiner acknowledge the details of actual exemplification of representative background features as reported in Examples 1 to 5 (as well as 6 to 8).

In view of the above actual working exemplification provided by the Applicant, it is respectfully submitted that the issues raised by the Examiner in issue 12 are addressed.

As such, it is respectfully submitted that Claims 13-23 are fully enabled by the specification because, when read in view of the specification and coupled with the knowledge of one of skill in the art, one of skill in the art would not have to practice undue experimentation in order to practice the full scope of the claimed invention.


CONCLUSION

In view of the above amendments and remarks, this application is considered to be in good and proper form for allowance and the Examiner is respectfully requested to pass this application to issue.

The Commissioner is hereby authorized to charge any underpayment of fees associated with this communication, including any necessary fees for extensions of time, or credit any overpayment to Deposit Account No. 50-1078.

Respectfully submitted,

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